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Letter to the editor

Saphenous Vein Graft Harvesting and patency: still an unanswered question

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In their letter on our recent work,¹ Loesch and colleagues underline the importance of the saphenous vein (SV) harvesting technique, supporting the superiority of no-touch technique with surrounding soft tissue over the traditional approach, including dissection and manual distention.² The success of coronary artery bypass grafting is still limited by unsatisfactory SV graft patency because of the high incidence of thrombotic early graft occlusion, progressive intimal hyperplasia, and late graft atherosclerosis.³ A greater use of arterial grafts has been advocated in view of their observed better patency rate; however, additional arterial grafts remain largely underused as the result of their increased technical complexity and risk of sternal complication when using bilateral internal thoracic arteries.⁴

Basic science and clinical research has focused on several methods that have the potential to improve SV graft patency, including the no-touch harvesting technique.² SV usually is stripped of its adventitial layer and distended to overcome spasm, a procedure known to cause vein intima and medial wall damage.³ By using a no-touch technique, the SV is harvested with a pedicle of surrounding tissue and can be implanted without the need for previous distension. This has the potential to preserve vessel wall integrity, thus improving SV patency rate. Samano and colleagues² recently have reported a 16-year follow-up angiography study of 44 patients randomized to conventional SV harvesting (n = 27) versus the no-touch (n = 27) technique. Crude SV graft patency was 64% in the conventional group versus 83% in the no-touch group (P = .03). The main limitation of this study, however, was that the SV conventional group underwent aggressive manual distention with saline at 300 mm Hg for 1 minute whereas in the no-touch group, the SV was connected to the arterial cannula. Therefore, we are unable to establish whether the observed superior patency rate in the no-touch group was related to the presence of surrounding tissues or to the avoidance of overdistention. The effect of mechanical force damages on vein graft integrity has been demonstrated previously by our group, and we reported a technique that preserves endothelial and media viability.³ The SV is harvested with a no-touch technique but without surrounding soft tissue, and overdistention is avoided by connecting the SV to the arterial cannula and allows the vein to distend at the patient's own arterial pressure.

In a recent randomized study of on- versus off-pump coronary surgery where a no-touch technique was used without the surrounding pedicle tissue, we reported a SV patency rate of 89% at 8 years' follow-up.⁵ We also found that by using this approach, long-term survival was similar in patients receiving SV or radial artery in the context of bilateral internal thoracic artery grafting.¹ In conclusion, although every effort should be made to avoid SV damage and overdistension during harvesting, the role of no-touch technique and surrounding soft tissue still needs to be clarified. Despite preliminary promising data, this technique currently remains largely underused because of the potentially increased risk of surgical-site infection in the leg. A randomized clinical trial investigating the effect of pressure distention and no-touch soft tissue pedicle harvesting on SV on

medial-intimal proliferation at 1-year follow up using intravascular ultrasound has just been completed in our institution, and it is expected to report in the next few months.

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